

Plumas National Forest

Terrestrial and Aquatic Wildlife

Biological Assessment/Biological Evaluation
Management Indicator Species Report
Migratory Bird Species Report

PROJECT NAME: Ponderosa Fire Salvage Project

DISTRICT: Feather River

LOCATION: National Forest (NF) lands between Feather Falls and NF road 20N24 T. 20N, R. 6E, Sections 11, 14, 23, and 26 Mt. Diablo Base Meridian. Elevation 2,000 – 2,800 feet. (Refer to project map **Figure 1**)

INTRODUCTION

The Feather River Ranger District (FRRD) on the Plumas National Forest (PNF) is proposing fire salvage on 250 acres. The fire began on August 29, 2017 at Ponderosa Way Road near Ponderosa Reservoir in the rural community of Feather Falls. The fire burned 4,016 acres of which 1,646 acres are National Forest (NF) lands and consumed 55 structures. Roads within the fire perimeter provide access to NF lands and are main motor ways connection the communities of Feather Falls and Forbestown.

The 2004 Sierra Nevada Forest Plan Amendment record of decision provides direction for ecosystem restoration following catastrophic disturbance events through the salvage harvest of dead and dying trees conducted to recover the economic value of this material and to support objectives for reducing hazardous fuels, improving forest health, reintroducing fire, and/or re-establishing forested conditions.

The purpose of this Biological Assessment and Biological Evaluation (BA/BE) is to determine whether the proposed action would result in an adverse action to wildlife and aquatic species habitat. Seven categories of wildlife species are considered in an evaluation of project impacts on PNF lands. **Endangered** species are species that are in danger of extinction throughout all or a significant portion of their range (16 U.S.C. 1532). **Threatened** species are species that are likely to become endangered species throughout all or a significant portion of their range (16 U.S.C. 1532). A **Proposed** species is any species that is proposed in the Federal register to be listed as a threatened or endangered species under the ESA (50 CFR 402.03). **Candidate** species: The term "candidate" now strictly refers to species for which the US Fish and Wildlife Service (USFWS) has filed enough information to propose listing as endangered or threatened. **Forest Service Sensitive** wildlife are those species, generally Federal candidates for listing or species of concern, that have been designated by the Forest Service as needing special management attention because of viability concerns. The FS manages these species to ensure that these species will not require listing as threatened or endangered. **Management Indicator Species** are used because their population changes are believed to indicate whether management activities are having an effect on the viability and diversity of animal and plant communities. **Migratory Birds** are of special concern because they breed in North America. Due to their sensitivity to environmental change, NTMB species serve as an “early warning” system for alteration of

ecosystem structure and function. By closely monitoring NTMB habitat associations and population trends within California habitats, we can track the integrity and resilience of California ecosystems.

Federal Endangered, Threatened or Proposed and Forest Service Sensitive Species

The purpose of this BA/BE is to determine whether the proposed action would result in a trend toward listing or loss of viability for sensitive species, and to document effects on threatened or endangered species and/or their critical habitat as part of determining whether formal or informal consultation is needed. This BA/BE is prepared in accordance with legal requirements set forth under Section 7 of the Endangered Species Act [19 U.S.C. 1536 (c), 50 CFR 402] and standards established in Forest Service Manual direction. The purpose of this report is to determine whether the proposed action would result in a trend (FSM 2672.42). A list of T & E species was provided by the “Federal Endangered and Threatened Species that may be affected by Projects on the Plumas National Forest”, updated September 18, 2011. There are no T & E and Proposed species in the project area.

There will be no measurable effects to Forest Sensitive Species habitat. Refer to **Appendix A** for the species list.

Management Indicator Species

The Plumas National Forest utilizes the U.S. Fish & Wildlife Service 2008 Birds of Conservation Concern for the Sierra Nevada as its framework for analyzing effects to migratory birds. The purpose of this report is to evaluate and disclose the impacts of the proposed action on the habitat of the eleven (11) Management Indicator Species (MIS). The Plumas National Forest Land and Resource Management as amended by the 2007 Sierra Nevada Forests Management Indicator Species Amendment Record of Decision. The eleven migratory birds are addressed directly or by using a surrogate species.

The current bioregional status and trend of populations and/or habitat for each of the MIS is discussed in the 2010 Sierra Nevada Forests Bioregional Management Indicator Species (SNF Bioregional MIS) Report (USDA Forest Service 2010).

There will be no measurable effects to MIS habitat. Refer to **Appendix B** for the species list.

Migratory Bird Species

Under the National Forest Management Act (NFMA), the Forest Service is directed to “provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives.” (P.L. 94-588, See 6 (g) (3) (B)). The January 2000 USDA Forest Service Landbird Conservation Strategic Plan, followed by Executive Order 13186 in 2001, in addition to the Partners in Flight (PIF) specific habitat Conservation Plans for birds and the January 2004 PIF North American Landbird Conservation Plan all reference goals and objectives for integrating bird conservation into forest management and planning.

In late 2008, a Memorandum of Understanding between the USDA Forest Service and the US Fish and Wildlife Service to Promote the Conservation of Migratory Birds was signed. The intent of the MOU is to strengthen migratory bird conservation through enhanced

collaboration and cooperation between the Forest Service and the Fish and Wildlife Service as well as other federal, state, tribal and local governments. Within the National Forests, conservation of migratory birds focuses on providing a diversity of habitat conditions at multiple spatial scales and ensuring that bird conservation is addressed when planning for land management activities.

There will be no measurable effects to MIS habitat. Refer to **Appendix C** for the species list.

CONSULTATION TO DATE

There are no Threatened or Endangered or Candidate species in the proposed project, therefore it is not required to contact the U.S. Fish and Wildlife Service for consultation. An official list of Threatened, Endangered, and Proposed species was obtained from the Sacramento FWS IPaC USFW list website at <https://ecos.fws.gov/ipac/>

CURRENT MANAGEMENT DIRECTION

- Code of Federal Regulations (36 CFR 220.6 (e)(13))
- Code of Federal Regulations (36 CFR 220.6 (e)(5))
- Forest Service Manual and Handbooks (1909.15)
- Forest Service Manual and Handbooks (FSM/H 2670)
- National Forest Management Act (NFMA: 1976)
- Endangered Species Act (ESA: 1976)
- National Environmental Policy Act (NEPA: 1969)
- Migratory Bird Treaty Act of 1918 as amended (MBTA)
- Plumas National Forest Land and Resource Plan (LRMP: 1988)
- Sierra Nevada Forest Plan Amendment FSEIS and ROD (SNFPA: 2004)

DESCRIPTION OF THE PURPOSE AND NEED

Purpose and need:

The Ponderosa Fire was a high severity fire that burned along Lumpkin Road a thoroughfare to a segment of the Feather River Ranger District that includes the well-known Hartman Bar trail, Golden Trout campground, and Little Grass Valley Reservoir campgrounds. Lumpkin also intersects with the road leading to the highly used Feather Falls National Recreation Trail.

Therefore there is a need to provide safe passage along Lumpkin Road to the residents of Feather Falls and recreational users. In addition provide regeneration by planting seedlings in the areas that burned at high severity.

Proposed Action:

The Feather River Ranger District proposes to salvage timber in areas of high vegetation burn severity on approximately 250 acres on NF lands. The Roads in the upper NW unit and the middle unit of the project boundary will have 150' roadside hazard removal on both sides of the road, and the road in the lower SE units will have a 150 foot buffer on the northern side and a 50'

buffer on the southern side where the slope is much steeper. Salvage treatment units include slash and site preparation, reforestation, and release treatments. Slash will be spread from logging operations to reduce erosion on the high soil burn severity areas that have no top soil.

Re-establish forested conditions within areas that burned with high vegetation burn severity, reforestation is proposed throughout the project area. Areas would be reforested with tree species native to the ecological habitat type. Wide spaced cluster planting would be designed to achieve a more heterogeneous distribution of trees. Subsequent release treatment is designed to reduce competition vegetation.

EXISTING ENVIRONMENT AND EFFECTS

Species

Appendix A, B and C contains a list of Threatened, Endangered, Proposed, Candidate and Sensitive (TEPCS) species, Management Indicator Species (MIS) and Migratory Birds that potentially occur on the Plumas National Forest (PNF) and may be addressed in this report.

☐ YES ☒ NO Designated or proposed critical habitat for Threatened or Endangered species in the analysis area.

☒ YES ☐ NO Project is compliant with any applicable species recovery plans

Analysis Area

The analysis area for terrestrial and aquatic species habitat is the 250 acre project area.

Surveys

There are no federally listed species or designated critical habitat within or bordering the project. Although the project is within the elevational range of the federally listed threatened California red-legged frog there is no habitat conducive for the survival of the CRLF. There are no known listed Forest Service (FS) Sensitive Species. The wildfire burned through scorching the landscape among a checker board of FS and private land. Generally the areas are heavily burned leaving infrequent small green patches of trees. Areas of the project were hiked and assessed for wildlife habitat by biologist. Salvage areas tied to the road were assessed visually. Attention was given to terrestrial and aquatic species.

The Black-backed woodpecker (BBWO) (*Picoides arcticus*) is a forest management indicator species (MIS) and closely associated with burned forests although they do use green forest as well. In the course of avian surveys we observed a lot of bird activity in one burned area including five species of woodpecker (Hairy, Downy, N. Flicker, Nuttall's and Acorn) and many songbirds. We did not observe BBWO but given the use by woodpeckers, they could easily be attracted to forage in the burn this winter. The monitoring for BBWO is ongoing and so far there have not yet been BBWO document in the Ponderosa project area. Some common species that could potentially be encountered within the fire zone are, nuthatches, great horned and western screech owls, quail, and band-tailed pigeons. Mountain lions, bobcats, bear, coyotes, and mule deer may also be found traversing the burned area.

A small man made pond to the south of the Lumpkin road within the project boundary was assessed as potential habitat for amphibians or turtles. Current conditions of the pond is low water, muddy, and silty with no outlet. Forest Service sensitive species that could occur in the pond is the Western Pond turtle (*Actinemys marmorata*). No turtles or frogs were seen during our survey. There was a historic observation of a Western Pond Turtle (*Actinemys marmorata*) south of Lumpkin Road on private property in 2014.

Effects

DIRECT and INDIRECT: The proposed 250 acre areas of tree removal is 15% of the total acres burned on Forest Service land. Two MIS were considered as possibly being affected by the projects proposed action.

The BBWO takes advantage of burned areas to forage on the larvae of wood-boring beetles, engraver beetles, and mountain pine beetles that are found in the trunks of burned conifers (Dixon and Saab 2001). A good portion of fire affected trees from the ponderosa fire on FS land will remain unlogged. The trees slated for removal are along areas where falling trees could be a problem. Unfortunately, much of the private land has already dropped burned trees on the ground to be harvested.

Mule deer are an FS MIS species representing the oak woodland habitat. Habitat indicators include acres of hiding and thermal cover adjacent to high quality foraging areas and travel corridors. These habitat components are no longer there due to the fire. However, the deer should benefit from the projects proposed reforestation which will move the habitat toward achieving desired habitat conditions. Also the expected ephemeral flush of vegetation will provide tender shoots for deer to eat and find cover. The much desired high caloric acorns that deer eat readily would take multiple decades to reestablish.

CUMULATIVE: Direct and indirect effects are expected to be insignificant to species habitat; therefore cumulative effects are not expected.

Management Requirements

C-Clauses

- C6.24-B6.24 - Protection of Habitat of TEPS Species (10/78): Location of areas needing special measures for protection of animals (or plants) as Threatened, Endangered, Proposed or species under the ESA of 1973 and R5 Sensitive Species are shown on map and or discussed in this document. If protection measures prove inadequate, if other such areas are discovered, or if new species are listed on the Endangered Species List, FS may either cancel under C8.2 or unilaterally modify this contract to provide additional protection regardless of when such facts become known. Discovery of such areas by either party shall be promptly reported to the other party.
- CT6.313 - Limited Operating Period (1/84): Except when agreed otherwise, Purchaser's operations shall be "limited" as described within this document.
- C6.7 – C6.705 Logs not meeting utilization standards shall be used to meet the Land and Resource Management Plan as amended requirements. Logs should be evenly distributed within the units (stands) to the extent possible.

- If new TEPS species are listed or discovered within an area in which they may be adversely affected by activities, protection measures such as LOPs will be implemented as recommended by a qualified biologist, as appropriate for the species. The dates and reason for delaying harvest should be included in C6.313 Limited Operating (1/84), or other language that is appropriate for the type of contract.

Hardwoods

The SNFPA ROD 2004 decision relies on a set of forest-wide standards and guidelines for managing lower Westside hardwood forest ecosystems in concert with the following goals:

- Sufficient regeneration and recruitment of young hardwood trees over time to replace mortality of older trees; and
- Sufficient quality and quantity of hardwood ecosystems to provide important habitat elements for wildlife and native plant species.

Many of the medium to large oaks that were burned in the fire have visible cavities. Consideration should be given to retaining medium to large oak burned oak as much as is logistically feasible. For example, trees toward the back of the 250 foot buffer that would not strike the road or trees leaning away from the road. **It is highly recommended to retain the two large oaks identified in Figure 2 & 3 as optimum cavity nesting trees.** Refer to **Figure 2 & 3.**

Snags and Large Woody Material

Determine snag retention levels on an individual project basis for vegetation treatments. Design projects to implement and sustain a generally continuous supply of snags and live decadent trees suitable for cavity nesting wildlife across a landscape (SNFPA ROD 2004).

Leave green trees and retain **4 of the largest snags** per acre in units 1 & 2. Oak being the species of preference. Snags should be clumped and distributed irregularly across the treatment units.

Determine down woody material retention levels on an individual project basis, based on desired conditions. Emphasize retention of wood in the largest size classes and in decay classes 1, 2, and 3. **Retain 4 of the largest down logs per acre.**

Mitigations

To avoid cavity nesting birds if possible schedule outside of the nesting period of April 15 through July 31.

Riparian Management Zones

RCA widths were adjusted at the project level and landscape analysis has been completed and a site-specific Riparian Conservation Objectives (RCO) analysis demonstrates a need for different widths which did occur for this project. The water ways as mandated by the Clean Water Act, and support the Forest Service's mission to provide habitat for riparian - and aquatic-dependent species under the National Forest Management Act, Organic Act, Safe Drinking Water Act, Endangered Species Act, and Electric Consumers Protection Act. The riparian conservation objectives (RCOs) ensure that identified beneficial uses for bodies of water body are adequately protected. The RCO analysis is included in the Hydrology and Soils report. In addition the road

stream crossings areas, low water crossings, and plugged culverts are addressed in the hydrologist report.

- Riparian conservation areas with perennial and intermittent streams have an equipment exclusion zone of 75 feet from the edge of feature or to edge of riparian vegetation whichever is greater and an equipment exclusion zone of 50 feet from ephemeral streams (table X).
- Equipment and removing trees around the pond is prohibited. An exclusion buffer zone of 25 feet from high water mark is necessary to protect species and retain the ponds integrity (table X).
- Heavy equipment slope restrictions is 25% (table X).

Table 1. RCA Heavy Equipment Exclusion Zone Widths and Slope Restrictions

Riparian Conservation Area Type	Equipment Exclusion Zone Width (Feet)	Heavy Equipment Slope Restrictions	RCA Buffer that Slope Restrictions Apply to
Perennial and Intermittent Streams	75 feet from edge of feature or to edge of riparian vegetation, whichever is greater. No yarding within the these buffers simply fell them towards the streams in they are hazardous.	25 percent	300 feet for Pernnial Streams; 150 feet for intermittent streams.
Ephemeral Stream	50 feet from edge of feature or to edge of riparian vegetation, whichever is greater. No yarding within the these buffers simply fell them towards the streams in they are hazardous.	25 percent	150 feet
Ponds	25 feet from high water mark. No yarding within the these buffers simply fell them towards the streams in they are hazardous.	25 percent	

DETERMINATION OF EFFECTS:

The determinations are based on implementation of Mitigations or Protection Measure identified above.

Threatened, Endangered, Proposed, Candidate and Sensitive species

Based on the type and degree of proposed activities within the wildlife analysis area for the proposed **Ponderosa Fire Salvage Project** there would not be direct or indirect affects to Threatened, Endangered, Proposed, Candidate and FS Sensitive species. Refer to **Appendix A** for the determinations for each species.

Management Indicator Species

Based on the type and degree of proposed activities within the wildlife analysis area for the proposed **Ponderosa Fire Salvage Project** there would not be direct or indirect affects to MIS species. Refer to **Appendix B** for the determinations for each species.

Migratory Birds

Based on the type and degree of proposed activities within the wildlife analysis area for the proposed **Ponderosa Fire Salvage Project** there would not be direct or indirect affects to migratory bird species. Refer to **Appendix C** for the determinations for each species.

Prepared by: /s/ Kristina Van Stone Hopkins
Acting Wildlife & Aquatic District Staff Biologist

Date: 12/04/2017

Literature Cited

Code of Federal Regulations (36 CFR 220.6 (e)(13))

<https://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR>

Code of Federal Regulations (36 CFR 220.6 (e)(5))

<https://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR>

Dixon and Saab 2001

<http://fieldguide.mt.gov/speciesDetail.aspx?elcode=ABNYF07090>

Endangered Species Act (ESA: 1976)

<https://www.fws.gov/laws/lawsdigest/esact.html>

Forest Service Manual and Handbooks (1909.15)

<https://www.fs.fed.us/im/directives/>

Forest Service Manual and Handbooks (FSM/H 2670)

<https://www.fs.fed.us/im/directives/>

National Forest Management Act (NFMA: 1976)

<https://www.fs.fed.us/emc/nfma/includes/NFMA1976.pdf>

National Environmental Policy Act (NEPA: 1969) <https://ceq.doe.gov/>

Migratory Bird Treaty Act of 1918 as amended (MBTA)

<https://www.fws.gov/birds/policies-and-regulations/laws-legislations/migratory-bird-treaty-act.php>

Plumas National Forest Land and Resource Plan (LRMP: 1988)

http://featherriver.org/wp-content/uploads/docs/Plumas_NF_LRMP_Part_1.pdf

Sierra Nevada Forest Plan Amendment SEIS and ROD (SNFPA 2004).

<http://www.klamathforestalliance.org/Documents/sierranevadaforestplanrod.pdf>

USDA Forest Service. 2001. Sierra Nevada Forest Plan Amendment Final Environmental Impact Statement and Record of Decision. Pacific Southwest Region Forest Service, Vallejo, CA

USDA Forest Service. 2004. Sierra Nevada Forest Plan Amendment, Final Supplemental Environmental Impact Statement. Pacific Southwest Region, Vallejo, CA.

USDI Fish and Wildlife Service. 2003. Quarterly Species List for the Plumas National Forest. Reference No. 1-1-03-SP-1810. April 23, 2003. Updated electronically November, 2017..

USDA Forest Service. 2007. Record of Decision, Sierra Nevada Forests Management Indicator Species Amendment. U.S. Forest Service, Pacific Southwest Region. December, 2007. 18pp.

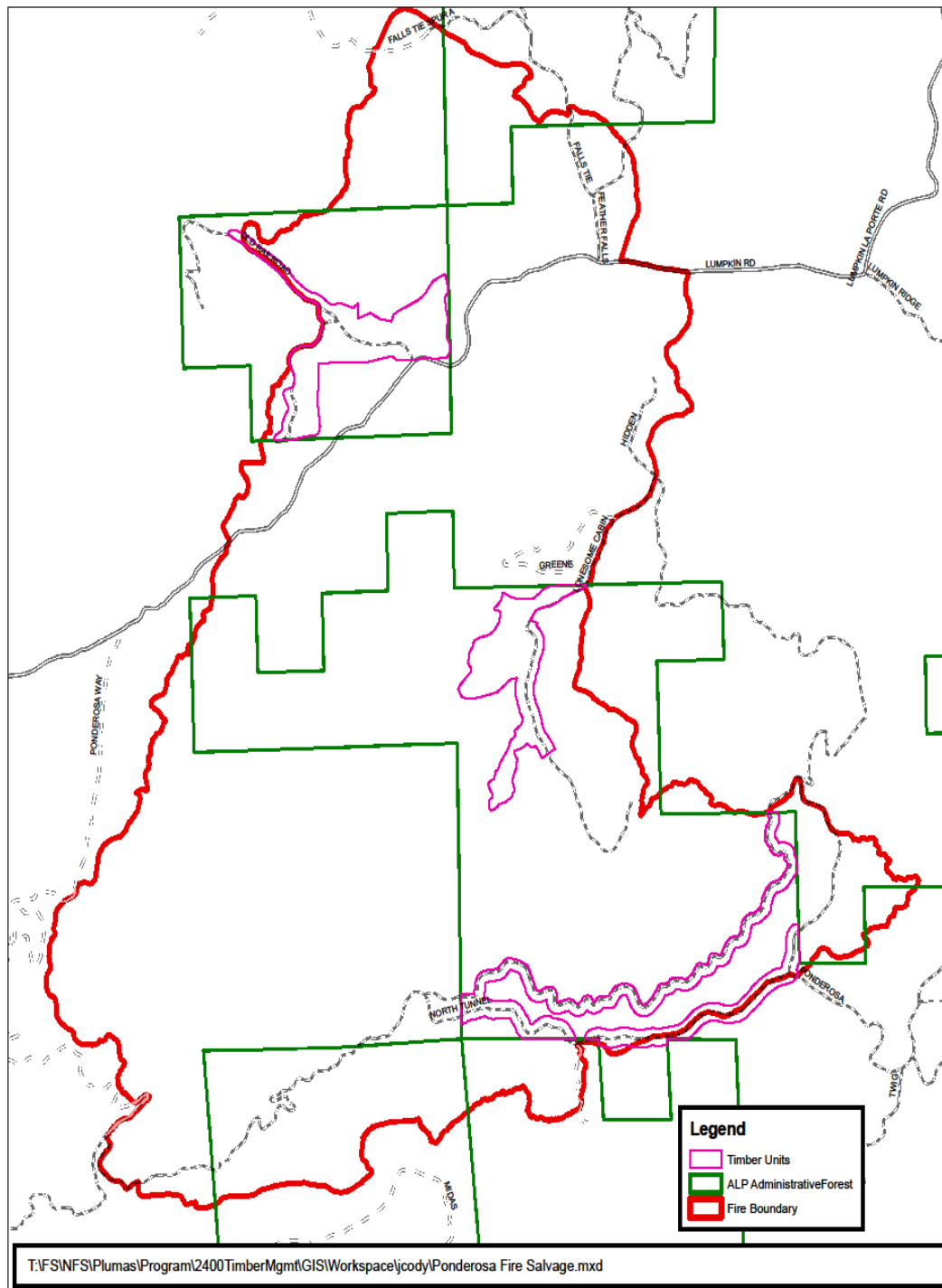


Figure 1. The Ponderosa Fire Salvage Project.



Figure 2. Burned black oak within the 250 foot buffer.



Figure 2. Burned black oak within the 250 foot buffer.

APPENDIX A

A list of Threatened, Endangered, Proposed, Candidate and Sensitive Animal Species that potentially occur on the Plumas National Forest and the determination

Threatened, Endangered and Sensitive Species (Scientific Name)	Species Status*	Habitat or Ecosystem Component	Category for Project Analysis**	Determinations
Invertebrates				
Valley elderberry longhorn beetle (<i>Desmocerus californicus dimorphus</i>)	FT	Elderberry trees (<i>Sambucus</i> spp.)	1	WNA
Fish				
Hardhead minnow (<i>Mylopharodon conocephalus</i>)	USFS : S	Riverine and Lacustrine	1	WNA
Amphibians				
California red-legged frog (<i>Rana aurora draytonii</i>)	FT	Riverine and Lacustrine	1	WNA
Foothill yellow-legged frog (<i>Rana boylei</i>)	USFS : S, DFG : SSC	Riverine and Lacustrine	1	WNA
Sierra (Mountain) yellow-legged frog (<i>Rana sierrae</i>)	FE, USFS : S, DFG : SSC	Riverine and Lacustrine	1	WNA
Northern leopard frog (<i>Rana pipiens</i>)	USFS : S, DFG : SSC	Riverine and Lacustrine	1	WNA
Reptiles				
Northwestern pond turtle (<i>Clemmys marmorata marmorata</i>)	USFS : S, DFG : SSC	Riverine and Lacustrine	2	MAINLA
Birds				
Bald eagle (<i>Haliaeetus leucocephalus</i>)	USFS : S, SE, USFWS : BCC	Large trees adjacent to riverine and lacustrine	1	WNA
California spotted owl (<i>Strix occidentalis occidentalis</i>)	USFS : S, USFS : MIS, DFG : SSC, USFWS : BCC	Late Seral Closed Canopy Coniferous Forest	1	WNA
Greater sandhill crane (<i>Grus canadensis tabida</i>)	USFS : S, ST	Prefers open habitats (grasslands and croplands) with shallow lakes and fresh emergent wetlands	1	WNA
Great gray owl (<i>Strix nebulosa</i>)	USFS : S, SE	Late Seral Closed Canopy Coniferous Forest adjacent to wet meadows	1	WNA
Northern goshawk (<i>Accipiter gentilis</i>)	USFS : S, DFG : SSC	Late Seral Closed Canopy Coniferous Forest	1	WNA
Swainson's hawk (<i>Buteo swainsoni</i>)	USFS : S, DFG : SSC	Open desert, grassland or cropland containing scattered, large trees or small groves	1	WNA

Threatened, Endangered and Sensitive Species (Scientific Name)	Species Status*	Habitat or Ecosystem Component	Category for Project Analysis**	Determinations
Willow flycatcher (<i>Empidonax traillii brewsteri</i>)	USFS : S, SE, USFWS : BCC	Riparian with dense willows	1	WNA
Mammals				
American marten (<i>Martes americana</i>)	USFS : S	Late Seral Closed Canopy Coniferous Forest	1	WNA
California wolverine (<i>Gulo gulo luteus</i>)	USFS : S, ST	Late Seral Closed Canopy Coniferous Forest	1	WNA
Pacific fisher (<i>Martes pennanti pacifica</i>)	FC, USFS : S, DFG : SSC	Late Seral Closed Canopy Coniferous Forest	1	WNA
Pallid bat (<i>Antrozous pallidus</i>)	USFS : S, DFG : SSC	Most common in open, dry habitats with rocky areas (rocky outcrops, cliffs and crevices)	1	WNA
Sierra Nevada red fox (<i>Vulpes vulpes necator</i>)	USFS : S, ST	Late Seral Closed Canopy Coniferous Forest	1	WNA
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	USFS : S, DFG : SSC	Mesic Habitats	1	WNA
Fringe-tailed myotis (<i>Myotis thysanotis</i>)	USFS-S	Sangs, caves, mines, crevices in rocks. Nearby water. Oaks and pinyon woodlands	2	MAINLA
Invertebrates				
Bumble bee (<i>Bombus occidentalis</i>)	USFS-S	Its short proboscis limits flower species with short corolla lengths	1	WNA

*Species Status: FE = Federal Endangered, FT = Federal Threatened, FP = Federal Proposed, FC = Federal Candidate,

USFS: S = U.S. Forest Service - Sensitive, USFS: MIS = U.S. Forest Service – Management Indicator Species, SE = State Endangered,

ST = State Threatened, DFG: FP = State Fully Protected, DFG: SSC = State Species of Special Concern,

USFWS: BCC = U. S. Fish and Wildlife Service Birds of Conservation Concern, SOI = Species of Interest.

** Category 1: Species whose habitat is not in or adjacent to the wildlife analysis area and would not be affected by the project.

Category 2: Species whose habitat is in or adjacent to the wildlife analysis area, but would not be either directly or indirectly affected by the project.

Category 3: Species whose habitat would be either directly or indirectly affected by the project.

*Determinations: T, E & P Species: WNA = Will Not Affect, MAINLA = May Affect but Is Not Likely to Adversely Affect Individuals or their designated critical habitat, MAILAA = May Affect and Is Likely to Adversely Affect Individuals or their designated critical habitat.

FS Sensitive Species: WNA = Will Not Affect, MAI = May Affect Individuals, but is not likely to result in a trend toward Federal listing or loss of viability, MAILRTFL = May Affect Individuals, and is Likely to Result in a Trend toward Federal Listing or loss of viability.

APPENDIX B

Selection of MIS for Project-Level Habitat Analysis

Habitat or Ecosystem Component	CWHR Type(s) defining the habitat or ecosystem component*	Sierra Nevada Forests Management Indicator Species (Scientific Name)	Species Status**	Category for Project Analysis ***
Early Seral Coniferous Forest	Douglas-fir (DFR), Eastside Pine (EPN), Jeffrey Pine (JPN), Lodgepole Pine (LPN), Ponderosa Pine (PPN), Red Fir (RFR), Sierran Mixed Conifer (SMC), Subalpine Conifer (SCN), White Fir (WFR), tree sizes 1, 2, & 3, all canopy closures	Mountain quail (<i>Oreortyx pictus</i>)	USFS : MIS	1
Mid Seral Coniferous Forest	Douglas-fir (DFR), Eastside Pine (EPN), Jeffrey Pine (JPN), Lodgepole Pine (LPN), Ponderosa Pine (PPN), Red Fir (RFR), Sierran Mixed Conifer (SMC), Subalpine Conifer (SCN), White Fir (WFR), tree size 4, all canopy closures	Mountain quail (<i>Oreortyx pictus</i>)	USFS : MIS	1
Late Seral Open Canopy Coniferous Forest	Douglas-fir (DFR), Eastside Pine (EPN), Jeffrey Pine (JPN), Lodgepole Pine (LPN), Ponderosa Pine (PPN), Red Fir (RFR), Sierran Mixed Conifer (SMC), Subalpine Conifer (SCN), White Fir (WFR), tree size 5, canopy closures S and P	Sooty grouse (<i>Dendragapus obscurus</i>)	USFS : MIS	1
Late Seral Closed Canopy Coniferous Forest	Douglas-fir (DFR), Eastside Pine (EPN), Jeffrey Pine (JPN), Lodgepole Pine (LPN), Ponderosa Pine (PPN), Red Fir (RFR), Sierran Mixed Conifer (SMC), Subalpine Conifer (SCN), White Fir (WFR), tree size 5 (canopy closures M and D), and tree size 6.	California spotted owl (<i>Strix occidentalis occidentalis</i>)	USFS : S, USFS : MIS, DFG : SSC, USFWS : BCC	1
		Northern flying squirrel (<i>Glaucomys sabrinus</i>)	USFS : MIS	
Oak-associated Hardwood & Hardwood/conifer	Montane Hardwood (MHW), Montane Hardwood-Conifer (MHC)	Mule deer (<i>Odocoileus hemionus</i>)	USFS : MIS	1
Riparian	Montane Riparian (MRI), Valley Foothill Riparian (VRI)	Yellow warbler (<i>Dendroica petechia</i>)	USFS : MIS, DFG : SSC	1
Riverine & Lacustrine	Riverine (RIV), Lacustrine (LAC)	Aquatic macroinvertebrates	USFS : MIS	1

Habitat or Ecosystem Component	CWHR Type(s) defining the habitat or ecosystem component*	Sierra Nevada Forests Management Indicator Species (Scientific Name)	Species Status**	Category for Project Analysis ***
Shrubland (west-slope chaparral types)	Montane Chaparral (MCP), Mixed Chaparral (MCH), Chamise-Redshank Chaparral (CRC)	Fox sparrow (<i>Passerella iliaca</i>)	USFS : MIS	1
Snags in Burned Forest	Medium and large snags in burned forest (stand-replacing fire)	Black-backed woodpecker (<i>Picoides arcticus</i>)	USFS : MIS	3
Snags in Green Forest	Medium and large snags in green forest	Hairy woodpecker (<i>Picoides villosus</i>)	USFS : MIS	1
Wet Meadow	Wet Meadow (WTM), Freshwater Emergent Wetland (FEW)	Pacific chorus frog (<i>Pseudacris regilla</i>)	USFS : MIS	1

*All CWHR size classes and canopy closures are included unless otherwise specified; dbh = diameter at breast height; **1** = Seedling Tree <1" dbh, **2** = Sapling Tree 1 - 6" dbh, **3** = Pole Tree 6 - 11" dbh, **4** = Small Tree 11 - 24" dbh, **5** = Medium/Large Tree >24" dbh, **6** = Multi-layered Tree. **D** = Dense Canopy Cover (> 60%), **M** = Moderate Canopy Cover (40 - 59%), **P** = Open Canopy Cover (25 - 39%), **S** = Sparse Canopy Cover (10 - 24%) (Mayer and Laudenslayer 1988).

****Species Status:** **FE** = Federal Endangered, **FT** = Federal Threatened, **FP** = Federal Proposed, **FC** = Federal Candidate, **USFS: S** = U.S. Forest Service - Sensitive, **USFS: MIS** = U.S. Forest Service – Management Indicator Species, **SE** = State Endangered, **ST** = State Threatened, **DFG: FP** = State Fully Protected, **DFG: SSC** = State Species of Special Concern, **USFWS: BCC** = U. S. Fish and Wildlife Service Birds of Conservation Concern, **SOI** = Species of Interest.

*** **Category 1:** Species whose habitat is not in or adjacent to the Wildlife Analysis Area and would not be affected by the project.

Category 2: Species whose habitat is in or adjacent to the Wildlife Analysis Area, but would not be either directly or indirectly affected by the project.

Category 3: Species whose habitat would be either directly or indirectly affected by the project.

APPENDIX C

Analysis of Migratory Birds

Birds of Conservation Concern (Sierra Nevada - BCR 15) Species (Scientific Name)	Species Status*	Forest Service Sensitive Species (S) or Management Indicator Species (MIS)	Project Level Report (BA/BE or MIS)	Critical Habitat component or threat as defined by Sierra Nevada Bird Conservation Plan (PIF)	Category for Project Analysis**
American peregrine falcon (<i>Falco peregrinus anatum</i>)	SE, USFWS : BCC	See Below	N/A	Bodies of water in open areas with protected cliffs, canyons and ledges for cover and nesting	1
Bald eagle (<i>Haliaeetus leucocephalus</i>)	USFS : S, SE, USFWS : BCC	Bald Eagle (S)	BA/BE	Designated as a non-land bird by DeSante	1
Black swift (<i>Cypseloides niger</i>)	USFWS : BCC	See Below	N/A	Wet cliff, waterfalls	1
California spotted owl (<i>Strix occidentalis occidentalis</i>)	USFS : S, USFS : MIS, DFG : SSC, USFWS : BCC	California Spotted Owl (S)	BA/BE	Depends critically on old growth	1
Calliope Hummingbird (<i>Stellula calliope</i>)	USFWS : BCC	Sooty (Blue) Grouse (MIS) Yellow Warbler (MIS) Willow Flycatcher (S)	MIS MIS BA/BE	Open Forested habitats, and moist habitats on the East Slope	1
Cassin's Finch (<i>Carpodacus cassinii</i>)	USFWS : BCC	California Spotted Owl (S)	BA/BE	Depends critically on old growth	1
Flammulated Owl (<i>Otis flammeolus</i>)	USFWS : BCC	Mule Deer (MIS) Hairy Woodpecker (MIS)	MIS MIS	Depends critically on oaks or oak woodlands, Loss of snags	1
Lewis' woodpecker (<i>Melanerpes lewis</i>)	USFWS : BCC	Hairy Woodpecker (MIS)	MIS	Loss of snags	1
Olive-sided flycatcher (<i>Contopus cooperi</i>)	DFG : SSC, USFWS : BCC	California Spotted Owl (S) Hairy Woodpecker (MIS)	BA/BE MIS	Utilize late successional/old growth forest, but does not depend on it critically, Loss of snags	1
Williamson's sapsucker (<i>Sphyrapicus thyroideus</i>)	USFWS : BCC	Hairy Woodpecker (MIS)	MIS	Loss of snags	1
Willow flycatcher (<i>Empidonax traillii brewsteri</i>)	USFS : S, SE, USFWS : BCC	Willow Flycatcher (S)	BA/BE	Depends critically on montane meadow habitat	1

*Species Status: FE = Federal Endangered, FT = Federal Threatened, USFS: S = U.S. Forest Service - Sensitive, USFS: MIS = U.S. Forest Service - Management Indicator Species, SE = State Endangered, ST = State Threatened, DFG: FP = State Fully Protected, DFG: SSC = State Species of Special Concern, USFWS: BCC = U. S. Fish & Wildlife Service Birds of Conservation Concern, SOI = Species of Interest.

**Category 1: Species whose habitat is not in or adjacent to the Wildlife Analysis Area and would not be affected by the project.

Category 2: Species whose habitat is in or adjacent to the Wildlife Analysis Area, but would not be either directly or indirectly affected by the project.

Category 3: Species whose habitat would be either directly or indirectly affected by the project.